

What is claimed is :

- 1 – A tire made of a rubber-based material of black color comprising at least one design on an outer surface of the said tire, this material being a diene elastomer or rubber, i.e. an elastomer obtained at least in part from diene monomers, the design being visible in at least one color different from the black color of the rubber-based material, the design having on its outer surface at least one light diffraction grating formed by a plurality of ridges or grooves of height H arranged parallel to one another with a period P .
- 2 – The tire of claim 1, wherein the height H of the ridges is less than or equal to 1 micron and their period P is less than or equal to 1.5 micron.
- 3 – The tire of claim 1, wherein the height H is between 0.17 and 0.23 micron.
- 4 – The tire of claim 1, wherein one same design is formed of at least two portions, each portion having at its surface a diffraction grating formed of a plurality of striations, the orientations of the striations of the gratings being different from one another.
- 5 – The tire of claim 4, wherein the difference between the angles of the striations in one portion of the design and in another portion of the same design is at least equal to 10° .
- 6 – The tire of claim 1, wherein the design has on its visible surface at least one diffraction grating whose characteristics enable a hologram to be seen, i.e. an image in three dimensions.
- 7 – The tire of claim 1, wherein the tire material on which the design is arranged is free from waxes and anti-ozone or anti-oxidant agents.

8 – The tire of claim 4, wherein the tire material on which the design is arranged is free from waxes and anti-ozone or anti-oxidant agents.

9 – The tire of claim 6, wherein the tire material on which the design is arranged is free from waxes and anti-ozone or anti-oxidant agents.

10 – A process for obtaining a design of variable color on an article made from a rubber-based material of black color, this material being a diene elastomer or rubber, i.e. an elastomer obtained at least in part from diene monomers, the design being visible in at least one color different from the uniform basic color of the rubber material, the process comprising the following stages:

- preparation of the basic design on a support, this design having an outer surface and, on part of the surface, at least one set of microstructures appropriate for forming a diffraction grating for light received at the surface of the article;
- positioning of the support with the basic design on a mould for molding a rubber article, the outer surface of the design provided with the set of microstructures being positioned so as to be in contact with the article to be molded;
- production of an unvulcanized and unmolded blank for the rubber article;
- introduction of the blank into the molding mould and vulcanization of the rubber material.

11 – The process of claim 10, wherein the basic design is reproduced on a nickel replica and this replica is stuck to a metallic support.

12 – The process of claim 10, wherein the basic design is reproduced on a support made from a thermoplastic material that can withstand the pressures and temperatures of molding and vulcanization.

13 – The process of claim 10, wherein the set of microstructures forming at least part of the design is composed of a plurality of ridges (or grooves) parallel to one another, of

mean height H and arranged with a period P, the said period P being equal to or smaller than 1.5 micron and the said depth H being equal to or smaller than 1 micron.

14 – The process of claim 13, wherein the basic design is reproduced on a nickel replica and this replica is stuck to a metallic support.

15 – The process of claim 13, wherein the basic design is reproduced on a support made from a thermoplastic material that can withstand the pressures and temperatures of molding and vulcanization.